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Afif Marouf

To: Nabil Fayoumi
Subject: Sauget Sites

04/04/03 09:42 AM

Hi Nabil:

Please, review the attached file and let me know if you have any questions or suggestions. I like to meet with you to go over my comments. I will be available on Tuesday, Wednesday and Thursday.

Thanks,
Afif



4 April 03.w

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590**

MEMORANDUM

DATE: 4 April 2003

SUBJECT: Technical Review of the Sauget Area Sites - Area 1, Area 2 P, Q and R, and Area 2 O and S.
February 5, 2003.

FROM: Afif Marouf, Toxicologist
Remedial Response Section #5

TO: Nabil Fayoumi, Remedial Project Manager
Remedial Response Section #2

As requested, I have reviewed the above subject report, and submit the following comments:

1. EPA recommends following a conservative approach in preparing the baseline-risk assessment. The report does not include a baseline-risk assessment which should be prepared and organized in general accordance with U.S. EPA's *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual* (RAGS) (U.S. EPA 1989b); and other related guidance.
2. Acute health effects are not mentioned in the document. I recommend that these should be qualitatively discussed where appropriate.
3. Because EPA recommends following a conservative approach in determining risk, I recommend the use of the U.S. EPA Region III Risk-Based Concentrations adjusted for a target hazard quotient of 0.1 and a target excess lifetime cancer risk of 1×10^{-6} in selecting chemicals of potential concern (COPC) for the baseline-risk assessment conducted for remedial actions.
4. Because EPA recommends following a conservative approach in determining risk, I recommend that an exposure point concentration defined as the 95% upper confidence limit on the arithmetic mean concentration, or the maximum concentration, whichever is lower be used for the calculation of risk-based cleanup standards.

5. Because EPA recommends following a conservative approach in determining risk, I recommend that the calculation of risk-based cleanup standards be based on acceptable noncarcinogenic risk defined as a total hazard index of less than or equal to 1.0 and acceptable target carcinogenic risk in the range of 1×10^{-6} to 1×10^{-4} .
6. EPA recommends that the site soil exposure assessment for development of risk-based cleanup standards be based on surface soil having a depth of 0-6" and subsurface soil from 6-72" bgs. On-site soil 0-24" should be assessed for a current residential scenario, 0-48" for current industrial scenario, 0-72" for construction scenario, and 0-36" for future industrial scenario.
7. Due to unavailability of the input parameters, scenarios, assumptions and calculations, the Illinois Department Of Public Health (IDPH) conclusions could not be verified. I recommend that the input parameters, scenarios, assumptions and calculations be provided.
8. It is not clear if reasonable number of the monitoring wells were installed for a reasonable time to rule out the possibility of migration of chemical to groundwater. Additional information is needed.
9. It is also not clear why the samples were taken from specific locations. I recommend that an explanation be provided.
10. It is also not clear if enough samples were taken from each specific area to ensure that all contaminated locations were sampled. I recommend that an explanation be provided.
11. It is also not clear why the different samples were tested for different chemicals. I recommend that an explanation be provided.
12. The report does not evaluate the groundwater and surface water pathway in the risk assessment. My recommendation is that groundwater pathway should be included in the risk assessment. The possibility of groundwater use in the future can not be ruled out. Furthermore, EPA groundwater standards indicate that where attainable, the groundwater should be protected for beneficial use as a drinking source (40 CFR Parts 300.430, 141, 142, and 143).
13. I recommend that all site-related chemicals detected in groundwater plume discharge area be compared to Region III Risk-Based Concentrations (RBCs) and retain those chemicals which present at concentrations above RBCs.
14. The report does not evaluate the children trespasser exposure scenario in the risk assessment. My recommendation is that the children trespasser exposure scenario be included in the risk assessment.

15. Because EPA recommends following a conservative approach in determining risk, I recommend that all the exposure factors be at least as stringent as those provided in the Exposure Factors Handbook, August 1997.
16. The input parameters and scenarios are not consistent with EPA guidelines. I recommend that all the input parameters and scenarios be at least as stringent as those provided in EPA guidelines.
17. The manual does not address the hot spots. It should explain how hot spots will be identified and addressed.
18. It is not clear whether the exposure-prevention structures, e.g. fence, should be permanent or interim remedies. It is also difficult to predict the permanence of some exposure prevention remedies and EPA does not have a mechanism for paying for "administrative control measures." Additional information is needed regarding how the exposure-prevention remedies will be maintained and who will pay for the "administrative control measures."